

PROCEEDINGS

—OF THE—

WATERWAYS CONVENTION,

—HELD AT—

SUPERIOR, WISCONSIN,

TUESDAY AND WEDNESDAY

AUGUST 7TH AND 8TH,

—1889.—

—————
C. M. PECK, PRINTER,
WEST SUPERIOR, WISCONSIN.
—1890.—

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OFFICERS OF THE CONVENTION.

HON. F. P. BACON, Temporary Chairman,	-	-	-	Milwaukee.
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HON. T. E. SEARLE, Temporary Secretary,	-	-	St. Cloud, Minn.
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HON. LEROY ANDRUS, Permanent Chairman,	-	-	Buffalo, N. Y.
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W. F. STREET, Permanent Secretary,	-	-	Superior.
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W. F. PHELPS,	{	Assistants Secretary,	-	-	-	-	Ashland.
G. F. MERRILL,							

GEO. B. BOWER, Stenographer,	-	-	-	-	-	Minneapolis.
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30 Jeos Craig.

Invitation is hereby extended to your Association (or Municipality) to participate in a WATERWAYS CONVENTION to be held at City Hall, West Superior, Wis., on Tuesday, August 7, 1889, by sending delegates as provided in the within resolutions,

ALEX McEACHERN,

Chairman of Committee City of Superior.

JAMES BARDON,

Chairman of Committee of

Superior Chamber of Commerce.

GEO. D. MOULTON,

Chairman of Committee of West

Superior Chamber of Commerce.

Aug 10. 89

ADOPTED.

MONDAY, MAY 20TH, 1889

—BY—

WEST SUPERIOR CHAMBER OF COMMERCE.

WHEREAS, cheap transportation for the products of the Northwest and the manufactured goods of the East has become the most considerable factor in the development of the commerce of the Great Lakes, in the building and maintaining the cities on the shores of said lakes and in the interior of the continent, and also the largest single factor in the economical and profitable carrying on of that primal source of all wealth, agriculture; and

WHEREAS, the merchant marine of the Great Lakes, in answer to the necessities of the Northwest and in compliance with the capacities of those great water-ways, has increased in average tonnage more than 25 per cent within the past three years, and is constantly increasing in depth of draught and in carrying capacity, thus making possible a cheapening of transportation charges between the East and the West and the Northwest; and

WHEREAS, the average depth of the harbors and straits of the Great Lakes is now totally inadequate to the proper reception and handling of the present merchant marine navigating the same, so that there is a very large annual loss in vacant tonnage on all deep-draught vessels; and

WHEREAS, it is considered essential that Congress should awaken to the importance of the commerce upon these lakes and to the necessity of meeting its growth by proper public improvement, therefore,

RESOLVED, that this chamber hereby tenders to each of the commercial bodies in the Northwest, upon the chain of Great Lakes and in the leading cities upon the Canadian and New England sea-board, an invitation to be present at and participate in a convention to be held at the City Hall in this city on Tuesday, August 7, A. D. 1889, for the purpose of formulating suitable memorials or resolutions to present to Congress, and preparing such documents of information as may be deemed proper for creating such a public sentiment as will aid in securing at the hands of Congress those liberal appropriations for the improvement of the many harbors upon the chain of the Great Lakes that are warranted by the magnitude of the inter-state commerce that is destined to be transacted upon them; and

RESOLVED, that each commercial body and each municipality receiving a copy of these resolutions, is hereby requested to send representatives to said convention as follows: Each commercial body, three representatives; each municipality, two representatives.

RESOLVED, that the City Council and the East End Chamber of Commerce are hereby requested to join in this invitation, and to participate in the necessary arrangements for the said convention.

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PROCEEDINGS OF THE
WATERWAYS CONVENTION,

—AT—

WEST SUPERIOR,

AUGUST 7 AND 8, 1889.

The convention was called to order at 2:45 P. M., by Judge Solon H. Clough, of West Superior, who then spoke as follows:

GENTLEMEN: If ours were a strong paternal government, provident to anticipate and supply the wants of its subjects, it may be assumed that there would have been no occasion for our presence here today in the capacity in which we find ourselves assembled. But as this is a government, as it has been felicitously phrased, "of the people, by the people, and for the people;" as government derives its powers in the last analysis from the people, so on the people devolves frequently, perhaps generally, the work of devising, laying out and planning measures which shall call for the exercise of governmental power. There is no occasion for discussing or considering whether our form of government is the more or less advantageous: it is such as we have adopted, and no one questions its excellence. We have taken it with its advantages and disadvantages, and in thus taking it we forego whatever especial utilities may pertain exclusively to some other system. I advert, gentlemen, to these few general considerations simply as presenting the fundamental ground upon which we stand in holding a meeting here to-day, the object and purpose of which is to speak with em-

phasis with reference to the wants of our people, especially of the people concerned in that commerce which is probably the most important of the land, the commerce between the East and the West. It is unnecessary, perhaps, to lay such a broad foundation, and yet it was an injunction of the fathers that we should recur frequently to fundamental principals. Taking so much for granted, there remains simply the question as to the occasion for the action contemplated here to-day. I will not undertake here to prove to you that such occasion exists. You have come here from along the lakes, from the rivers, from the prairies, to confer together with regard to those great material interests which are bound up in the subject of transportation.

This has been called distinctively a "waterways convention," a term which might imply an invidious relation to the railroad interests, but which I assume no broad-gauge railroad man would interpret in that light, for such have learned and perfectly understand that if their interests are to be developed and to thrive upon this continent, it is to be by the multiplication of large cities and of large business centers, and such men are the first to understand and comprehend that such centers have been initiated invariably in the history of this country at commanding points upon the grand aqueous arteries of the land. We shall expect, therefore, the co-operation of all identified with those interests, who take a comprehensive view of their relations to the general interests of the country.

Gentlemen, you have assembled here in response to an invitation of the Chambers of Commerce of Superior. On behalf of those bodies and the citizens of Superior I am happy to say that we think we may felicitate ourselves upon this goodly assemblage. We welcome you to our midst. [Applause.] There might have been at one time some question as to the propriety of the selection of this as the place for such a meeting, but we trust that the object lessons which will be presented to your observation during the time of your presence here, this magnificent plateau, destined to hold the population, at some time or other, of a grand city. The splendid showing of our sister city, Duluth, which is equally under your view, or, perhaps I should say over your view, (at least within your view here) as she would have been had that been the place of your convention, we trust, I say, that inspired by the scenes which will attract your attention here, both upon this side of the St. Louis River and upon the other side, where sits a city filled with citizens of whose exploits in the way of city building we here are proud, and to which we now point with pride; [Applause] we trust that, instructed by all you shall see here, you will make no question to the propriety of holding this meeting at this place. We desire to give you assurance of welcome as strong as words can affirm it. We trust that our stay here may be not merely pleasant but profitable to yourselves and to us. Gentlemen, my part in this convention, at least so far as any conspicuous feature of it is concerned, will have ended with my duty in opening the convention at this time. It will be necessary now to nominate some gentleman for temporary chairman.

Hon. T. B. Mills: This convention has met here, gentlemen, for the purpose of discussing the great question of transportation. In presenting a gentleman for the honorable position of temporary chairman, I have in mind one who has given more time than any man in the Northwest to this matter. I would now nominate him for chairman, the Hon. E. P. Bacon, of Milwaukee.

Judge Clough: Gentlemen, you hear the nomination. As I hear no other nominations and no objections, I will declare E. P. Bacon temporary chairman. Will some gentleman be kind enough to wait upon Mr. Bacon in company with Mr. Mills, and conduct him to the chair.

Mr. Bacon was conducted to the platform and greeted with applause.

Judge Clough: Gentlemen, I have the pleasure of introducing to you the Hon. E. P. Bacon, of Milwaukee, as your temporary chairman. [Applause.]

Upon assuming his duties as temporary chairman Mr. Bacon said:

GENTLEMEN: I thank you for the unexpected honor of being called to preside over the opening proceedings of this important convention, and I must ask your consideration in view of the fact that it comes to me in this entirely unexpected manner. I will discharge the duties to the best of my ability. I wish to correct the impression

which might arise to the cognomen "Honorable," to which I disclaim any title. [Laughter.] I will say, gentlemen, that I consider it highly unnecessary, after the eloquent and comprehensive remarks just made by the honorable gentleman who called you to order, to make any extended remarks on this occasion. I cannot however, in this, my first visit to the head of the great lakes, the head of Lake Superior, forbear expressing the deep impression that these waters, with their great facilities for transportation and commerce, have produced upon my mind.

I have been familiar, of course, with the appearance of the map, and had quite a definite idea of what the facilities were, but there is nothing like sight to make an impression upon the mind. We may read and look upon maps and study them, and think we have acquired a full understanding of the subject, but the sight of it is what impresses the fact upon our minds, and I wish to congratulate you, gentlemen, upon the profuseness with which nature has provided the facilities here for the transaction of the commerce of a continent. In looking upon the map, and especially that portion of it in reference to Lake Superior, the thought has always come to my mind that the water or bay upon which these two great cities are built is indicated upon the map by an index finger. It seems to me that there is significance in that. It probably has been observed by others that the formation of the head of Lake Superior is an exact index finger. But that index finger is pointing, not to the Northwest, which has generally been supposed to be the great source of commerce for this chain of lakes, but it points to the Southwest; and I have observed in the study of distances upon the map, by rail and by water, that a line drawn from this point, the head of this bay, through Omaha and so on westward, gives an exact equi-distance between the head of Lake Superior and the head of Lake Michigan, and consequently all that section of territory that lies west and north of that line is more directly tributary to Lake Superior than to Lake Michigan. Now, as a Lake Michigan man, this is not a very pleasant subject of contemplation. Nevertheless, gentlemen, I feel that these channels of communication are for the country at large as a whole, that we have reached only the incipient stages of our development here, and that there is territory enough to the east and south of that dividing line to which I have referred to make Milwaukee and Chicago and the other cities on Lake Michigan greater cities than yet exist on this continent. So that we can spare the remainder of the territory on the opposite side of that line for the upbuilding of these commercial cities at the head of Lake Superior, without a particle of jealous feeling. [Applause.]

This subject of transportation is one of deeper interest to the people at large than any other subject that can come before us, and it is especially so to the people of the West whose main occupation is an agricultural one, the production of articles from the soil which might be transported not only to the eastern shores of our continent but a considerable portion of them necessarily brought across the main sea. The cheapening of transportation, therefore, becomes necessarily a most important subject for consideration to the people of this great West. This cheapening of transportation is a process which has been going on from year to year until we are already astonished at the cheapness reached not only by water but also by rail. We have come to be the country in the world in which the cheapest transportation in the world prevails both by rail and water, and it is to that more than to any other one thing, that the rapid and vast development of this country is attributable. But, gentlemen, we need to increase these facilities for the transportation of our products to the eastern portion of our country, to the seaboard, and this I understand to be the chief object of this convention. I know not what specific line of operation is contemplated, but this I take it is the main object of this convention from the name it bears, "Waterways Convention." It matters but little whether the property is actually transported by water or by rail. Good facilities for its transportation by water and by railroads will give us cheaper and cheaper rates by rail. It is in my mind an object of the highest importance that we concentrate all our endeavors, no matter where we reside, here or upon Lake Michigan, which draws its business from another section, or whether we are upon the waters of the Mississippi, that it stands us in hand to stand shoulder to shoulder, and push all these improvements in any locality whether we can see any immediate benefit to our-

selves in particular or not. [Applause.] The natural influence of improvements in one locality is to encourage certain improvements in another. Gentlemen, I hope to see the day when steamers loaded at the ports at the head of this lake and Lake Michigan, with grain which shall be carried entirely across the sea and landed at the great marts of Europe without unloading; and it is to this, gentlemen, that I commend the efforts of this convention. We cannot expect to accomplish it by one step, one meeting, or one convention, but we can take the initiative steps and let us take them good and strong.

What is now the pleasure of the convention?

Mr. Frank A. Flower: Mr. Chairman, I would nominate for temporary secretary the Hon. Frank E. Searle, of St. Cloud, Minn.

The motion was carried, and Hon. Frank E. Searle was greeted with applause on his appearance on the platform.

The Chairman: What is the further pleasure of the convention?

Mr. W. F. Street: I move that the chair appoint three committees, one on credentials, to consist of eight members; one on permanent organization, to consist of twelve members, and one on resolutions, to consist of fourteen members, in order to perfect our organization, &c.

Judge Clough: Mr. Chairman, I rise to a point of order—that is, to suggest whether the committee on resolutions would not be more properly made by the permanent organization. I make this suggestion merely for the sake of orderly proceeding.

The Chairman: That would be a question for the convention to decide.

Mr. Benson: Mr. Chairman and gentlemen, I presume the point raised by the gentleman to be correct, and it is perhaps correct, but may be varied by the circumstances. The committee suggested is, I suppose, the most important committee of this convention, in fact it is the convention itself, and therefore it seems to me that such a committee should be appointed to-day and at once. I think if we are to adjourn to-morrow it is not so soon to have that committee on resolutions appointed now.

The Chairman: In order that this matter may be properly acted upon, it will be necessary to move the matter as an amendment.

Judge Clough: It occurs to me that these committees might report in a very short time. I do not know why it should take more than a very few minutes after the recess. However, I will move as an amendment that the committee on resolutions be omitted.

The motion on the amendment was here carried, 37 to 26.

The question on the motion as amended was here put and carried, after which a brief recess was taken.

The Chairman: The convention will please come to order. Before proceeding further I wish to invite a few distinguished gentlemen, of whose presence we have the honor, to take seats upon the platform.

Mr. De St. Croix, of London, England; Hon. Ignatius Donnelly; Hon. H. W. Seymour, of Sault Ste. Marie; Col. C. H. Graves, Speaker of the Minnesota Legislature; Mr. J. J. Hill, of St. Paul; Hon. T. B. Mills, Congressman N. P. Haugen, Hon. Leroy Andrus, Senator J. F. Ware, and Major Quinn. The gentlemen mentioned will please step forward and take seats upon the platform.

I will ask the secretary to read the names of the committees appointed.

The Secretary: The Committee on credentials is as follows: Mr. C. C. Andrews, of St. Paul; Mr. D. E. Roberts, of Superior; Mr. Ward Ames, of Duluth; Mr. G. G. Merrill, of Ashland; Mr. J. C. Flynn, of Little Falls; Mr. D. M. Brigham, of Mil-

waukee; Mr. W. F. Hahn, of Davenport, and Mr. D. M. Smith, of Minneapolis.

The Committee on Organization: Mr. T. B. Mills, of Millston, Wis.; Mr. J. C. Reno, of Minneapolis; Mr. George H. Mather, of St. Paul; Mr. James Bardon, of Superior; Mr. R. C. Brophy, of Duluth; Mr. George H. Morgan, of St. Louis; Mr. Hugh McMillan, of Chicago; Mr. W. H. Wolff, of Milwaukee; Mr. Frank B. Lazier, of Buffalo; Mr. Jared Benson, of Anoka; Mr. E. G. Swannstrom, of Duluth, Mr. W. R. Bierly, of Grand Forks.

Mr. W. F. Street: I would suggest that the delegates present their credentials to the Secretary at once, in order that he may hand them to the committee.

The Chairman: We will hear a few remarks from the gentlemen on the platform while the committee are in the performance of their duties.

Several members called for Mr. J. J. Hill, President of the St. Paul, Minneapolis and Manitoba Railway Company.

Mr. Hill was greeted with prolonged applause as he came forward, and spoke as follows:

GENTLEMEN OF THE CONVENTION: It is a pleasure for me to be able to contribute, in however small degree, to the general object that has brought you together on this occasion. As your chairman said, the matter of transportation is one of the greatest and most vital importance to all the people, next to the cultivation of the land. It is certainly of more importance than any other single subject that affects the nation or the nation's welfare, or the well-being of the people of the nation. This has been the case as far back as history gives us any record of what mankind has done in this world. The nations that have been prosperous and powerful, and the peoples who have been intelligent, have, I believe, almost invariably been those who controlled the commerce, and in controlling commerce they controlled it through transportation. If we look back 25 years in the history of the West, we find that during that time we have made, through the means afforded by the opening up of the various lines of transportation, more material progress than in any one hundred years preceding it. I do not call myself a very old man, yet I remember when all west of Freeport, Ill., was an unsettled prairie. Within the last ten years we have opened up an imperial empire in its domain, from the place where we now stand to the waters of the Pacific, almost every mile of which has its use, and will bring the development and will call for the greater use of these waterways, the consideration of which has brought us together here and now I would like to call earnestly the attention of the delegates to the importance of deep water navigation. The first nine or ten years of my residence in the State of Minnesota was passed in connection with the navigation of the Mississippi River. The Mississippi River, a noble stream, has served her time and her day, but I fear—as an old Mississippi River steamboat man, I say it with sorrow—I fear the Mississippi River clock has struck twelve, never to strike again. [Applause.] No, there is not depth enough of water—the rain does not fall in sufficient quantities to make it. If we could lath and plaster the bottom of the river and hold the water, possibly we might improve it from St. Paul to St. Louis, but if we look over the river and harbor appropriations we see a list of sums of money that represent the taxes collected from the people of the country, and I think I am safe in saying that one-third of the entire sum might as well be appropriated and given to King Kalakua to enable him to attend the Paris Exposition. [Laughter and applause.] Take, for instance, the old Minnesota River. I have traveled on a steamboat from St. Paul to Yellow Medicine in a week or ten days. I did not miss the time, because it was pleasant. But, gentlemen, we cannot afford the time. Take the Red River of the North. I have made a great deal of money in a small way on the Red River of the North with steamboats; but that time is gone. I believe I own all the steamboats on that river, and I will give the entire number for less than one half of the annual appropriation. I speak, gentlemen, from my own knowledge. I think one-third of the appropriation might as well have been thrown away. It seems a pity that the money could not have been expended where it would

channels where a steamer can carry a cargo of 3,000 tons at twelve or fourteen miles have done the most good. If that money could have been expended to deepen those an hour, and do it at an expense on the boat and on the shore of \$175 per day; if the channel from Chicago to Buffalo and from here to Buffalo were deepened to full eighteen feet of navigable water, I think I would have the courage to build a 5,000-ton boat, that could carry at one-half the present rate charged. [Applause.] I may be sanguine about these questions, but I think after I have had time to consider a subject carefully I am always sanguine, and I never was more sanguine about anything in my life than about that which we must have if we enter into competition with the markets of the world—and we do. All our Western produce is sold at prices fixed by Mark Lane. Am I not right, Mr. President. [Answer, "Yes, sir."] The surplus we have to sell establishes the price on the balance, and we are interested to the extent of the distance we have to carry it in finding cheap means of transportation. There is not a question in my mind that the cheapest transportation that can be furnished in any way is through a good steamer and deep water upon which to run her. If this convention will open or drive the opening wedge that will result in giving us eighteen feet of water from here to Buffalo, it will have served the country and every person in the country, East and West, better than you can know. [A voice, "Make it twenty feet."] Twenty would be better, but we can do a great deal on eighteen. The survey charts made in 1860 make it eighteen, but a close and actual measurement shows fourteen and one-half. That is all. And more transportation, more commerce passes over these waters than over any other fresh waters on the face of the earth; and that, too, within the United States. This country celebrated its centennial some time in April, and we all felt very patriotic and I think eleven feet high. But when we come to look back and consider I do not think we have so much to be proud of. If surveys made in 1860 indicate eighteen feet of water, or seventeen, or sixteen and a half, and we find we have fourteen and a half, what are we doing to aid our commerce? There was a time when we had a foreign commerce, when our flag floated on every sea and in every port, and our merchant ships were second to none in the world. Now, at this time the fact stares us plainly in the face, no matter how it is brought about, it is here and present with us, that we have not any ocean trade to speak of. We are driven behind the ramparts of our own territorial boundaries, and we have a commission every week or two travelling about the country to see if there is not some way to be devised in which the transportation between our states from one state to another can be preserved to the American systems as against some colonial lines over in Canada. That is what we are doing. Our commerce, our transportation to-day, if I may use the simile, stands chained and manacled by the laws. There was a time when American enterprise could reasonably sit down and expect the fruit of its own labor and its own energy and work. But, temporarily, that time is gone. I hope the time will be very temporary and very short, and will soon return. [Applause.] If this convention, and it covers the waterways of the country, will urge upon the general government the expenditure of a reasonable sum of money to give us deep water from the head of these lakes to Buffalo, you will, as I have said before, deserve the thanks of every man in this country, East, West, North and South. I do not wish to ignore or to forget the value of the improvement of the rivers; I do not by any means want to relegate them to the bone-yard. They do not deserve to go there. The Mississippi from Cairo to New Orleans can and will do some business; but as far as the great transportation problem of this country is concerned I believe it is true, considering the difference in time, that a first-rate steamer can carry freight from the head of this lake to Buffalo for less money than it can float down the Mississippi on a raft. This question of transportation is important to the country at large; it is so great that it will make itself felt. It must be fairly considered and treated, or the country at large will suffer just as the interests within it suffer. It is a large interest, and to the extent it suffers the country at large will suffer. These transportation interests are important to everybody; we must first know that they will practice no extortion, and beyond that I would like to see them have a fair field, and let the enterprise, and ingenuity, and energy of the country see what can be done in ten years. Go back ten years. Ten years ago a steamer that could carry twelve hundred tons was a first-class boat. I remember when the rates were five cents a bushel on wheat. They got down to four, and people

thought they were low rates. But I think there were a good many vessel owners who would have been glad to contract at three cents for the entire season. [A voice, "Two."] But if we are to have the development we should have, we must have a place to float it. When I was ready to build the line of boats now running I wanted to build steamers that would carry 3,500 tons on sixteen feet nominally. I understood we could count on fourteen to fifteen feet. I wanted to build boats 350 feet long. But when I came to the builders and my old lake friends, they said: "You are going to fast, you cannot get them out of the harbor." Now a harbor that is built on so short a pattern that you cannot get a ship in and out of it must take its proper place—it must play second, or third, or fourth violin, but the music will go right on. If you give us room according to our height we will do the business in this country. We can meet any competition likely to come from the other side of the border or anywhere else. There is a bare possibility, however, owing to our easy and slow method of carrying on this work that before we get this canal enlarged and deepened at the "Soo" we will be paying toll to a Canadian canal. We have had our own way for a good many years, but we have apparently come to think that we have got our growth, and the world is not such a big thing after all. We have to unlearn such ideas. We must go back and take our place in the column and march to the music of the times. If not, we will assuredly get left, and our boasted progress will leave us. It is leaving us. I was in Canada the other day and saw seventy car-loads of American cotton goods going to the Pacific ocean consigned to the steamer "Carthia," labeled, "On the cars." I found the cotton was ordered from Old England to fill their orders in China and Japan, and had to be sent by way of the Canadian Pacific because it was the only line that could quote them a through rate. They have some steamers, several, on the Pacific coast that run across. We have the money, so they tell us, a big surplus, and do not know what to do with it. I believe it would be a good plan if the Government, instead of putting up so many buildings, would just for a year or two try a few experiments. Give, say a million a year for a line of steamers to South America, and another million for a line to Asia, and let us try how it would work. [Great applause.]

Gentlemen, I will not take any more of your time. I am greatly obliged to you and hope your work will bear good fruit, and when there is another Waterways Convention, that you can look back and point with pride to the work of this one.

The Chairman: The convention will now listen to the result of the labors of the committee if ready to report. If not, the gentlemen of the convention, will suggest some other gentleman to address them.

Mr. St. Croix was called for.

Mr. St. Croix: I arrived in this town this morning, not knowing I was going to appear before an important congress of this sort. I have heard the former speaker, and I may say that I attach also considerable importance to what he has stated—getting a more direct communication with your small growers and wheat raisers. I have come over to this country again on that subject, and it is because Duluth is at the head of the lakes that I come here; this is the point we are looking out for. But there is one point Mr. Hill did not touch upon; he finished at Buffalo. I think there is one point in your waterways requires attention beyond Buffalo. I can assure you from a business man's point of view that a small barge, with 80,000 bushels the limit of its capacity, is far too small to do the business in proper shape. I have heard it suggested that the time will come when you will load wheat here for Liverpool without change. That is a mistake. If you could get a steamer here to carry to New York it would be all right, but you certainly want some great improvement in the canal though, and it is necessary. From Buffalo on the waterway is far too small. I am obliged to you for listening to these few remarks. [Applause.]

The Chairman: Any other gentleman the convention desires to listen to? Col. C. H. Rochester, of Independence, Missouri, called for.

Col. Rochester: I was very much impressed by the remarks of Mr. Hill. There was one question that troubled me while he was discussing the depth of the

channel. I now rise for the purpose of asking the gentleman a question, and that is, What is the depth the Government proposes to excavate the Soo Canal? Is it 20 feet or more? [Answer, 21 feet.] The way it strikes my mind, gentlemen, it would be folly for this convention to ask for a depth in this bay, for example, less than 21 feet. Why? Because a vessel coming through the Soo canal, drawing 21 feet, does she want to come up here and look at the bay, and not deliver the freight? She cannot come in. I trust the gentlemen will urge this Waterways Convention to ask the general Government to pass an appropriation to deepen this bay, or any other bay where boats pass the Soo Canal. Mr. Chairman, this is a great question, and I am reminded of an anecdote of the Indian whose wife was bitten by a snake. The Indian, knowing that whisky was a sovereign remedy for a snake bite went to a place where they had it and said: "I want some whisky to cure my wife of a snake bite." "How much do you want," he was asked. "Oh!" the Indian replied, "I want a gallon." "A pint is enough," said the man. "No said he, a pint ain't enough; I tell you that was a mighty big snake." Now, Mr. Chairman, these Waterways, they are mighty big Waterways. [Applause.] I was struck with the remark, Mr. Chairman, made to me thirty years ago by one of the most far-seeing and distinguished men in this country, Stephen A. Douglas. He said, "That point Sir, has more of possibility in the future than any point on Lake Michigan." Said he, "It is 350 miles farther westward than any point on Lake Michigan, therefore has the advantage of 350 miles of railroad travel. A railroad will be built," said he, "running from the head of the Lake to the Pacific Ocean." That railroad is built. "Then," said he, "Vessels coming from China and Japan, the forces of the trade winds bring them to Puget Sound, but when that railroad is built those vessels can unload there at Puget Sound and save a coasting trip of 500 miles. It saves 1,000 miles in the round trip, and the vessel coming from the Chinese or Japanese ports with freight destined to New York and returning with freight destined to China and Japan, saves 1750 miles." That was a broad question, but it was conclusive, gentlemen, that this point at the head of the Lake, will be, sometime in the future (I do not expect to see it, but my children may, for I have been obeying the command given by the Almighty, I have been multiplying and replenishing the earth [laughter], they may live to see this place here, one of the greatest cities on the continent. [Applause.] The mind is absolutely dazed and bewildered when contemplating the possibilities in favor of a great city at this point. When remembering that Minnesota, the Dakotas, Montana, Nebraska, and Colorado, will send to this point for shipment to the East and to Europe, their multiplied and ever and rapidly increasing products, in the way of wheat, live stock and minerals, who can set bounds to your prosperity? The valleys of the upper Missouri, the Red River of the North and the Saskatchewan, will be great contributors to the upbuilding of a commercial and manufacturing city which in the future will be second to none between the Atlantic and Pacific Oceans.

On motion a recess was here taken of 10 minutes.

The Chairman: You will come to order, gentlemen. The time of our recess has expired but the committees are not entirely ready to report, and it has been suggested to me that there are one or two other gentlemen whom the convention might be interested in listening to.

Mr. John Murphy: Mr. Chairman, I move you the Honorable Frank A. Flower be invited to address the Convention. Seconded. Carried.

Hon. Frank A. Flower: The gentlemen of this Convention want, I suppose, more water, not more wind. I do not think they wish to hear from me at all. I just think of one or two points which I noticed in a recent trip from one end of the Lakes to the other. Those who know the business have touched upon the main points, but there are some smaller points of importance to vessel men, which have received no attention yet. A ship arriving at the mouth of the St. Mary's river at night fall is obliged to tie up on account of the tortuous channel. I rode all day with a gentlemen who told me, "We have only just commenced. It will take us 8 years alone, the way

we are working." This was a gentleman who had charge of the dynamo matters there. Then I had a conversation with a gentleman, the Chief Engineer in charge of the Canadian Soo, who said he would have their work done in 1892. Then another thing, the Canal cannot be passed in the night. I am told that every vessel passing through that Canal has a tonnage levied upon it by a foreign country. Whether that is right or not is a question. It might have some effect if this Convention should discuss, if not other matters, the slowness with which work is proceeding in some of those places. If it should take 10 years to finish the new lock, and the Canadian will be done in three years, it would be a very serious matter to every town upon the upper Lakes; it would cut off all our business. As long as we have plenty of air we do not think anything about it, but when we don't have any wind it is a very important matter. If the least little thing should happen it would be a very serious matter to these Lake ports and the country tributary to them. I do not know as I would suggest we adopt any resolutions on that, but if the facts are brought out and incorporated in our proceedings they may enlighten our gentlemen in Congress.

The Chairman: The Committee on credentials is ready to report.

Chairman of Committee: The whole number of delegates who have presented credentials is 103, and if the Chair pleases I will read the list, after which any corrections can be made.

The Credential Committee reported 103 delegates entitled to seats as follows:

WISCONSIN.

Milwaukee Chamber of Commerce—E. P. Bacon, W. H. Wolff, D. M. Brigham.

Ashland Business Men's Association—Edwin Ellis, John H. Knight, W. M.

Tompkins, G. F. Merrill, Thos. Bardon.

City of Superior—Frank A. Flower, C. K. Lawrence.

Superior Chamber of Commerce—James Bardon, D. E. Roberts, P. H. Perkins.

West Superior Chamber of Commerce—S. H. Clough, H. J. Connor, G. D.

Moulton, W. F. Street.

Black River Falls—E. A. LeClair.

Black River Falls Board of Trade—John H. Mills, W. R. O'Hearn, T. H.

Phillips.

Ellsworth—J. A. Murphy.

Millston—T. B. Mills.

Merrillan—J. B. Miller.

Jefferson—L. R. Merrill.

River Falls—N. P. Haugen.

MINNESOTA.

State at Large—J. J. Hill, St. Paul; E. G. Swanstrom, Duluth, and Jared Benson, Anoka.

Duluth Chamber of Commerce—M. R. Baldwin, W. F. Phelps, George A. French, R. C. Mitchell, W. A. Thompson.

Duluth Board of Trade—C. H. Graves, M. J. Forbes, Ward Ames.

Duluth Produce Exchange—C. W. Culver, N. J. Miller, Thomas Dowse, Geo. W. Strong, B. Johnson, Edmund Ingalls.

City of Duluth—M. J. Davis, Harry Armstrong.

West Duluth Chamber of Commerce—R. C. Brophy, Alex. Forin, J. V. Hancock.

Stillwater Board of Trade—E. W. Durant, R. J. Wheeler, C. M. McClure, James Goodman, C. H. Carli, W. E. Eastman, Geo. Low.

St. Paul Chamber of Commerce—C. C. Andrews, A. Pugh, D. D. Merrill.
 St. Paul Board of Trade—D. W. Twohy, J. Mather, J. A. Sieny.
 City of Minneapolis—C. P. Lovell, V. M. Smith.
 Minneapolis Board of Trade—J. C. Reno, Anthony Kelly, W. E. Steele, J. Newton Nind, D. M. Gillmore, H. A. Towner.
 Minneapolis Produce Exchange—S. H. Hall.
 Little Falls Chamber of Commerce—J. C. Flynn, C. A. Lindbergh, H. Rasicot.
 City of Little Falls—P. H. Gross, N. Richardson.
 St. Cloud Chamber of Commerce—F. E. Searle, C. S. Benson, Frank Tolman.
 City of St. Cloud—Wm. Westerman, L. R. Swift.
 Mankato Board of Trade—J. A. Willard, B. Tuttle, James Shoemaker.
 Sauk Center—L. E. Coe.
 Royalton—G. B. Nobles.
 Austin Board of Trade—C. H. Davidson, A. B. Hawkins, J. D. Sheedy, Chris. Brown, P. Haley.

Hon. Ignatius Donnelly, by unanimous vote, was made a member of the convention, but later in the day received by telegraph his credentials as a delegate from Hastings.

IOWA.

Davenport—W. F. Hahn, Capt. White.

MISSOURI.

St. Louis Merchants' Exchange—Nathan Frank, Geo. H. Morgan.

SOUTH DAKOTA.

Ashton—John H. Cushing.

Milbank—D. W. Diggs.

NORTH DAKOTA.

Grand Forks Chamber of Commerce—W. R. Bierly, E. L. Emery, Wm. Delroy.

Grand Forks City—E. B. Frederick, W. R. McClellan, John A. Taylor.

MICHIGAN.

City of Sault Ste. Marie—Otto Fowle, Thos. R. Easterday.

Sault Ste. Marie Chamber of Commerce—H. W. Seymour, C. S. Osborn, L. J. Cody.

NEW YORK.

Buffalo Merchants' Exchange—Wm. Thurstone, Leroy Andrus, S. S. Guthrie.

Lake Carrier's Association—John Gordon, W. P. Henry, Alex. McDougall, substitute, Frank Lazier.

ILLINOIS.

Chicago Board of Trade—J. S. Dunham, Hugh McMillan, John G. Keith.

On motion the Secretary was instructed to place the names of any delegates on the list who were not present but might be later, and to make such amendments as might be required.

On motion it was ordered that alternates be allowed to sit if present.

Mr. Geo. D. Moulton: I wish to present the name of Mr. Ignatius Donnelly to be added to the list entitled to a seat in the convention.

Motion carried.

The Chairman: Is the committee on permanent organization ready to report?

Chairman of Committee: We would recommend for permanent Chairman the Hon. Leroy Andrus, of Buffalo, N. Y. For Vice Presidents, J. S. Dunham, of Illinois; Hon. N. P. Haugen, of Wis., Hon. H. W. Seymour, of Mich., Wm. Thurstone, of N. Y., Hon. Nathan Frank, of Mo., Hon. J. C. Flynn, of Minn., Hon. W. F. Hahn, of Iowa, E. J. Emery, of N. Dak., J. J. Cushing, of S. Dak. For Secretary, W. F. Street, of West Superior. Assistant Secretaries, Wm. F. Phelps, of Duluth, G. F. Merrill, of Ashland.

The Chairman: You have heard the report of your committee on permanent organization; what is your pleasure?

On motion the report was adopted.

The Chairman: I will ask the gentleman who opened the proceedings and Mr. Phelps to escort the Permanent Chairman to the platform.

The Permanent Chairman's appearance on the platform was greeted with hearty applause, after which he said:

Gentlemen of the Convention, I can assure you it is but a weak and impoverished expression when I say that I am surprised by your selection of myself as permanent Chairman, and it is further a weak and impoverished expression when I say that I am proud to be chosen to preside over the deliberations of such a body as this, representing as it does such vast commercial interests, interests so intimately, so indissolubly connected with the prosperity of the country. It is unnecessary for me, gentlemen, to enlarge upon the importance of the questions which are to be brought before you for your consideration. I see before me represented such interests, so much intelligence, so much force, that I am sure the energy which you will put into your action will be felt in the way of legislation. I have great confidence in the possibilities of a Convention like this. It is not the first time that such a one has been held. I am given to understand that two years ago a similar Convention was held, the objective point of which was an improvement of the Waterways between the East and the West, and that its effect was to lead to one of the most beneficial improvements which the country could possibly expect in the enlargement of the "Soo" Canal. [Applause.] The action of this present Convention will be watched with great interest, not only in the West but in the East. It is one which, in its effects, will not only involve this country, but as has been said by the gentlemen preceding me, foreign relations with this country in the production of grain and in the commercial interests which unite us. It is not my purpose here, nor your pleasure, having assembled from such remote distances, to listen to long speeches, therefore gentlemen, thanking you for the honor which you have done me, I ask your further pleasure. [Applause]

W. R. Bierly: Mr. Chairman, I move you now that a committee on resolutions as suggested by Mr. Street, be appointed at this time.

The motion was seconded and carried

The Chairman: The surprising character of the selection of the Chairman my unfamiliarity with the gentlemen of the Convention will make it necessary for me to ask for your indulgence for a few moments, and I will therefore call the Hon. Nathan Frank to the chair.

A member arose and stated that he understood the most gifted orator of the Northwest was present, the Hon. Ignatius Donnelly and would call for an address from him while awaiting the selection of the Committee.

Repeated calls were here made for Mr. Donnelly, whose appearance upon the platform was greeted with much applause.

The Chairman: It is useless to do or say anything further than to mention the name of Mr. Donnelly. □

Mr. Donnelly addressed the Convention as follows:

Mr. President, and Gentlemen of the Convention, it is customary in the construction of great buildings not only to have the finer material for the outside of the edifice and strong blocks for the inside, but also to fill in with rubble, and I suppose that I am called upon to perform that function. I am the rubble of this edifice. [Laughter and applause.]

While you are waiting for the Chairman to select this committee, you desire to be talked to for a few moments. I can only say, gentlemen, that I am hardly in condition to speak to you. I have to-night to deliver a lecture here in this city upon the Authorship of the Shakespeare plays, and I feel that it is a question as important, from a literary point of view, as this Convention is from a commercial standpoint. [Applause.] And I feel moreover that the great Northwest has a hundred and odd very able gentlemen here to represent and take care of its interests, while poor Francis Bacon has no one to advocate his but myself. [Laughter.] And consequently my friends I shall not trespass upon your attention for any length of time.

I will simply say that I think with communities, if not with individuals, self-assertion is one of the great bases of greatness; and I take it a convention such as this is, is in the nature of an attempt at self-assertion. It is a declaration on the part of the communities tributary to the head of this great lake system demanding and enforcing the consideration of the world; calling attention, in the most emphatic terms to that great geographical fact, than which there is no greater geographical fact in the world, that for all practical purposes the Atlantic Ocean penetrates to the heart of this country, and terminates very near where we are now assembled. [Applause.] And I think that, big as are the brains of our Western people, and there are none larger on earth [laughter and applause] and illuminated as they have been by the lights of such extraordinary progress, even the largest intellects do not completely grasp the full meaning of that tremendous geographical fact. I could not help thinking all this the other day, when looking at a map of Europe, and noticing how the Mediterranean Sea penetrated far into the depths of that great continent—for practically Europe, Asia and Africa are one continent. I remember how, in the ancient world, all the vast civilization centered around that great body of water, until Plato, surnamed The Broad, from his broad view of things, used this broad expression, "The Nations are gathered around the Mediterranean like frogs around a pond." And when you look at that map, and consider the glories of Tyre and Sidon, the great nations of the Phœnician world, Alexandria, and the great nations of another epoch, Rome and mighty Carthage further down the coast of that region; and when you remember that the great growth, extraordinary power and wealth of those marvellous communities were sustained by a region that will not for one instant compare with this continent—for back of them were the great deserts of Arabia or Africa, the rocky peaks and soil of Phœnicia or Palestine, the rainless country where nothing could be raised without irrigation; and when you consider that into the heart of this continent of America penetrates a body of water greater in its shore lines than the water of the Mediterranean,—penetrates not into deserts, but into lands of unexampled richness—for the valley of the Nile for agricultural purposes extends but five and one-half miles in average width (we could stow it in any one county of Minnesota or Wisconsin),—and when you think that those nations, under such disadvantages, rose to such magnificence and power in that ancient world, to what must this country not come in the great hereafter? Here we have millions of square miles of fertile land; and here to-day, going out into our western country, is a commission appointed by the Senate of the United States, that proposes to reclaim by irrigation a large part of that two-fifths of the wild land of our country which cannot be made practically valuable without irrigation. Why, my friends, we are only upon the threshold of things, and men will look back in the future and laugh at our exaltation and pride, and at the statistics of which we boast to-day.

I made a prophecy the other day, which I think will be realized, although none of us will live to see it, that before the end of the twentieth century there will be grouped around the head of this Lake great cities perhaps under one municipal government, that will contain ten millions of inhabitants. The London "Times" said the other day, "The child is now born that will see the United States with two hundred millions

of people." Why, what is that? Why, in eleven years, at our past ratio of growth, we will touch the mighty sum total of one hundred millions of people, and nine-tenths of those here will live to see it. And what will the future give?

What geographical fact will stand out so conspicuously as that mighty waterway in whose interest you are assembled here to-day? There is an ancient tradition that the mouth of the Mediterranean was once cut off from the ocean by a line of rocks and sand, and that some highly civilized pre-historic nation opened the water-way which now exists in front of the rocks of Gibraltar. We are now assembled to assist in opening in the same way the Mediterranean of this continent, this American continent, and we should never rest until the government has completed such improvements that ships of the largest burden can load at these docks and sail without breaking bulk until they touch the ports of England and Europe. [Great applause.]

I think also, it might be well to call attention to an idea that I have advocated for twenty-five years past. If we will imagine the continent of America penetrated by this great system of great lakes, represented by this paper [holding up a folded newspaper,] and we here have running at right angles to it the great Mississippi river and its tributaries, represented by this newspaper. The interval between the two is only one hundred and fifty miles, the actual amount of land that would have to be crossed is but fifty miles. Now, my friends, you can see it is inevitable that in the process of time, (this generation may not reach it, but it is sure to come,) a great ship canal will yet be constructed that will unite these two navigable systems, connecting by water the greatest lake system in the world, and the greatest river valley in the world. My friends, that Mississippi valley could, I believe, contain and amply support all the civilized people that now dwell on the face of the earth. It reaches practically from the Rocky Mountains to the Alleghanies; scarcely a foot of it but is, or could be made, capable of sustaining populous human life—a mighty region such as the world presents on no other continent. For what is Asia? Barren land, the greater part of it. For what is Africa? Nine-tenths of it unsuited by climactic conditions for the support of civilized man. There is nothing we can compare with it except Europe; and Europe is overpopulated and sending out its annual swarms to seek other lands.

But, my friends, I believe your Chairman is ready with his list of names. My time is up. I have fulfilled my function. I thank you. [Great laughter and applause.]

The Chairman: I will announce the following committee on resolutions, gentlemen: Edwin Ellis, of Ashland; S. H. Clough, of Superior; W. H. Wolf, of Milwaukee; James Bardon, of Superior; H. W. Seymour, of Sault Ste Marie; John Gordon, of Buffalo; Nathan Frank, of St. Louis; Hugh McMillan, of Chicago; W. R. Bierly, of Grand Forks; Jared Benson, of Anoka; E. W. Durant, of Stillwater; T. B. Mills, of Millston, Wisconsin; J. B. Miller, of Merrillan and C. H. Graves, of Duluth.

Col. Graves: As a delegate to this Convention from the Board of Trade of Duluth, I wish to bring to the attention of the Convention some resolutions adopted by that Board, with the request that they be received by the Convention, and referred to the committee on resolutions. I shall not ask any action at this time, but wish to have that committee consider them, and make such a report as they see fit.

It is evidently believed by the Board of Trade of Duluth, as is shown by this, that the one great question of interest to the producers and the consumers of the East and West, tributary to and pending on this lake navigation, is the perfecting of this lake outlet, thus enabling the transportation of the produce of the States tributary hereto, and also causing the regulation of the railway rates, and that here lies the kernel of our interest, and that here lies the great thing which this Convention can accomplish. If its blow can be delivered so as to tell for deep water connection, that will be sufficient work for the Convention and sufficient honor for the time.

The Chairman: If there are no objections the paper read will be referred to the committee. It is so ordered. Will the gentlemen whose names have been announced as vice-presidents kindly take places on the platform.

Mr. W. R. Bierly: Mr. Chairman, and gentlemen, I have been a listener with profound interest to the remarks that have been made here to-day concerning the decadence of the river navigation, and at a proper time, if this convention will extend to me its courtesy, I propose to discuss the reason of this decadence and show to this convention facts in regard to our great river system in the northwest, and why there is no longer any navigation. But I simply rise to perform a duty to the Chamber of Commerce of Grand Forks, which, you all know, sits Queen of the Red River Valley where the famous No. 1 hard wheat is grown that fills your elevators in Duluth, West Superior, Minneapolis and Milwaukee, until they split wide open when we have a good season. And we come here to say to this convention that you must look beyond and not stop with the improvement of your harbors, because with your harbors improved to their utmost capacity, what are they good for unless we can deliver our wheat to them, and unless we can buy your goods and material? These remarks are brought out by the suggestion of the gentleman who preceded me, and whose resolution, I think, is an attempt to shut off in this convention anything that shall look towards asking of congress a proper appropriation for the improvement of the rivers of the Northwest.

The Chairman: The gentleman is not strictly in order, there being no question before the convention.

Mr. Bierly: My remarks are only introductory, Mr. Chairman. I have some resolutions to read.

The Chairman: The question, gentlemen, is upon the disposition of the resolutions.

At this point, on motion, it was voted that all persons having resolutions hand them in to the committee on resolutions without reading and discussion.

Mr. J. C. Flynn: Mr. Chairman, I desire to make the motion that the sense of this convention is, that the committee on resolutions confine their resolutions strictly to the waterways of the Northwest—that is, the Great Lakes system. I will say further that I am also interested in the land of No. 1 hard, and in getting cheap transportation from these cities to the East, which will help the land in Dakota. I was a member of the convention in St. Paul a few years ago. The convention took up the question of transportation and of all the canals of the West and of every little creek in the country. The consequence was there was nothing done. When it went into congress everybody had a woodchuck and we got nothing.

The motion was seconded.

Mr. Bierly: I hope the gentleman who made that motion will have sufficient courtesy for this committee to assume in advance that the committee understands its business, and does not need instructions at this early moment. I am satisfied that there is not a gentleman in this hall, who, if he will carefully listen to the facts and figures that I am prepared to show to this convention when opportunity occurs, and I am sorry I have not had the opportunity to do it this afternoon, but will endorse every word I have said here to-day. I do not desire to ask an endorsement of this matter by this Convention, and have merely introduced these resolutions with the view of eliciting a discussion and bringing the facts that bear upon this great and burning question to us in Dakota before a body of men who are versed upon questions of this kind, and see whether they do not come to the same conclusion we do. I will say, if this shall prove a disturbing element, and have the effect of cutting off one dollar from your Eastern waterways, I shall withdraw them, but I would like to be heard upon this question before this action is taken. [Applause.]

Mr. Morgan of St. Louis: Gentlemen, the government of the United States has for many years had commissions for the improvement of the waterways of the country. The call for this convention was in the interest of the waterways of this country, the rivers and lakes and harbors of the East as well as the West. The experiment has been tried very many times in these conventions, and it has been found impossible to separate any one scheme from the balance. You cannot go to congress with a scheme for the improvement of the chain of lakes and expect to have it considered on its own

erits. If you expect to carry the improvement of one part you must advocate the improvement of the whole system in the bill. If we attempt to confine ourselves to the improvement of the harbors only along these lakes, we make a mistake. Because it is the combined influence of the great Northwest that carries appropriations. While along the Mississippi River believe that our appropriations can be secured, we come here to show our sympathy with you. We join with you in asking congress to improve your harbors and lakes, and we expect you to join with us in asking congress to improve the Mississippi River and its tributaries. We must therefore combine our forces. [Applause.]

Mr. Durant of Stillwater: What is the convention called for? We have appointed fourteen gentlemen on resolutions, selected from different parts of the country, and opposed to have a knowledge of the different wants of the country. A resolution is offered here directing just what that committee is to do. I agree with the gentleman from St. Louis that there are some other places besides the lakes that demand the attention of the government, although I believe the lake interest is paramount to any other. But I think that when you come to narrow the question down you will make a mistake. I think there are no diverse interests here. It seems to me that the work of the committee, like Othello's work, "is gone," if you narrow it down.

Mr. Phelps: I fully agree with the remarks made by the gentlemen from Stillwater and St. Louis. The call of this convention is entirely general. It does not limit the action of the convention to the waterways of the lakes nor to any other particular system. Under that call we have our distinguished friend from St. Louis, who has served the Merchants' Exchange of that city for eighteen years, one of the most powerful and useful commercial bodies in the West. We have gentlemen from New York and from other states, and it seems to me, although I should have been in favor of limiting the call of this convention to certain things, since that call has no limitation, and since these gentlemen have come here under that call expecting to present the interests of the waterways of their respective localities, I do not see how we can rule them out of this convention by adopting this resolution. You must be generous, now that the call is so broad. [Applause.]

Mr. Flynn: Under the circumstances I am glad of the explanation made by the gentleman from St. Louis. I have labored under a misapprehension in regard to the call of the convention. But I have drawn out what I wanted, the expression of the convention, and I now ask leave to withdraw the motion.

Mr. Graves: The main point, to consolidate the effects of the action of this convention as much as possible, will undoubtedly be accomplished by this little discussion that we have had. My own opinion, aside from the instructions received from the Board of Trade is, that it is not possible to confine the deliberations of this Convention, under the call which has been made, entirely to one line of transportation, but the utmost care, I believe, should be used, not to so scatter our energies as to have no effect at all follow from our actions. I think that has been sufficiently brought out by the talk, and I will withdraw my second.

There being no objection the motion was withdrawn.

The Chairman: Has any delegate any resolution upon which it is desirable to have an action of the committee on resolutions?

Mr. Gordon here presented a resolution which the chairman stated under the rule would be referred.

Mr. Willard of Mankato: Mr. Chairman, I hold in my hand an instruction. I do not think it is a resolution to be referred to the committee, from our Board of Trade. It is only three or four lines and I would ask permission to read it.

The Chairman: If there is unanimous consent the gentleman will read it.

Mr. Willard read:

Resolved that this board of trade accepts the invitation of the West Superior chamber of commerce to send delegates to the Waterways Convention on August 10th, and

Resolved further, That such delegates be and they are hereby instructed to urge

upon said Convention the great paramount importance of appropriations to complete the new lock at Sault Ste Marie and the improvement of the Hay Lake channel

I wish to say, Mr. President, that I fully concur in the remarks made in reference to the general call of this Convention; that it is the duty of this Convention under the call to embrace the whole subject of waterways; and I am very glad the motion to limit has been withdrawn by unanimous consent, but under the instructions with which I come here—I live upon one of the tributaries of the great Mississippi, a tributary for which appropriations have been made from time to time by Congress amounting to thousands of dollars, and I do not know but hundreds of thousands of dollars, that have been utterly useless and might as well have been thrown away—I shall support the question of paramount importance. I admit it appears to be necessary in this age, in order to get a meritorious resolution, that one must couple with appropriations for creeks all over the country, and thus squander and throw away money. But I do not think this convention, while it should embrace every subject, and while the committee on resolutions has in view the call that was made, that we and they should further waste our energies, but we should direct them to the great paramount object which I think is the object of the whole Northwest. We should labor for the one great object embraced in this instruction of mine.

Mr. Phelps: I desire to offer some resolutions for the consideration of the committee on resolutions, and I beg leave before doing so to make a brief explanation.

The Chairman: Under the rule the presentation of resolutions, unless by unanimous consent, must be without debate. Is there no objection? I hear several dissenting voices, Mr. Phelps.

A number of resolutions were here handed in for consideration of the committee.

The Chairman: Is there no further business? If not, the convention will stand in recess until 2 o'clock tomorrow afternoon sharp. So ordered.

SECOND DAY'S SESSION.

The Chairman: The hour having arrived, the convention will be in order. I am informed that owing to delay in procuring typewriter copy of the resolutions the committee are unable to report just now, but will present one shortly. We have present the Hon. H. W. Seymour, of the "Soo," and the desire has been expressed that he should address the convention on the subject of the situation at the "Soo." I have the honor to present the Hon. H. W. Seymour.

Hon. H. W. Seymour: Mr. Chairman and gentlemen, I shall not attempt to make a speech upon this occasion, but simply state in a simple way and in as plain language as I can certain facts relative to the St. Mary's Falls canal and the Hay lake channel in St. Mary's river. The original canal was completed in 1855 by the State of Michigan under a grant of land from congress of 750,000 acres. It remained under state control until 1881, and by the terms of the grant it was provided that only enough toll should be collected to pay for operating expenses and repairs. In 1881 a single lock was completed by the United States, the dimensions of which were 515 feet in length between the gates, and 80 feet in width, narrowed to 60 feet at the gates, with a draft of water of 16 feet. The two locks originally made by the state had a lift of 9 feet each, and were 70 feet in width and 350 feet in length. These proved inadequate for the wants of commerce, and accordingly the United States authorized the construction of the present lock, which was completed September 1st, 1881. Under the operation of the old locks the draught of water allowed was 12 feet. Tugs at that time were engaged in towing small schooners and small vessels through the river, but when the present lock was completed the character of the carriers was changed and barges towing consort and carrying heavier cargoes superceded them. In 1855, the first year of the opening of the original locks, the amount of registered tonnage passing through the canal was 106,296 tons. In 1880, the last year of the operation simply of the original locks, the freight tonnage was 1,567,741, and in the fiscal year closing July 1st, 1889, the freight tonnage passing through the present lock was 6,932,203, and if you should compute the tonnage from August 1st, 1888, to August 1st, 1889, the amount of freight tonnage would be over 7,000,000. Recently the United States government has commenced the construction of another lock, the coffer-dam for which has just been completed. It will be a magnificent structure 800 in length between the gates, by 100 feet in width, and with 21 feet of water on the miter sills. Owing to the heavy pressure of water in the canal it has been difficult to make the coffer-dam tight so that it did not leak, but the engineer in charge thinks that he has succeeded, and as a consequence the original locks have been destroyed for lockage purposes, leaving the present lock alone in use for the passage of vessels, and on which the entire traffic of Lake Superior is dependent. The present one, as I have stated, allows the passage of vessels drawing

16 feet. It is filled and emptied by a channel underneath the lock. During this season one vessel, too heavily laden, broke the steel ropes which move the gates, bore heavily on the miter-sill, and was probably the cause of the present cracked condition of the frame of the emptying valves. In consequence of vessels thus over-loading and on account of the lower stage of water this year, a limitation draft was fixed by order of the secretary of war through the engineer in charge, so that now all vessels are measured before they enter the lock, and are obliged to lighten their load or blow off steam, or trim, in order that they may pass over the miter-sill without injuring it. The miter-sill is a timber 12x16 inches, and which, with the plank and timber of the bottom of the lock above the emptying valves, is an important security to the commerce of Lake Superior, and if injured would inflict loss upon the vessel interest by stoppage of the navigation of the lock. If serious injury occurs either to the miter-sill, the emptying valves, or the coffer dam, navigation would be closed during repairs, and such a hazard is unwise for the commercial interests of this country to continue. We need larger appropriations so that the new lock shall be completed at the earliest possible moment in order that we may end the condition of insecurity in which we find ourselves placed. The cost of transportation of freight through this waterway from the port of entry to the port of delivery during the year 1887 was 23-100 of a cent per ton per mile. During the last year by a careful computation it has been shown to be reduced to 15-100 of a cent per ton per mile, while in 1887 the statistician shows the average cost of railroad transportation in this country per ton per mile was about one cent, which shows the great difference in the cost of transportation by rail and by water over this great route. You will readily understand by this comparison how much advantage this waterway is to the traffic, not only of the northwest, but to the commerce of the east and the entire country. For the 33 years in which this canal has been in operation 42,426,778 tons have passed through, and during the past 7 years 23,329,070 of freight tonnage, showing the rapid increase in the amount of business which has been done upon this waterway. Another improvement is the Hay lake channel. It makes a straight channel and will shorten the distance eleven miles. By computation, as been made by the engineer, at the rate of 15-100 cents per ton per mile, the saving in the business of last year alone from this shortening of the distance would have been more than \$115,000, a value which, if the channel had been in operation, would have been saved to the people of this country, and at the rate of 3 per cent it would be the interest on more than double the amount that is necessary to complete the Hay lake channel and put in use for the commerce of this country. If this improvement were completed, thus straightening the channel, the use of lights would allow the navigation of the river by night, which is now impossible. The cost of completing the Hay lake channel over the appropriations already made is \$1,684,115, and the estimated cost is \$3,738,865 to complete the lock. By the last report of the secretary of war to the second session of the Fiftieth Congress one and one-half million of dollars was asked to be available for the year 1890, and I am informed that the amount will be fixed at two million dollars in his report this year. It has been the custom of the river and harbor committee to reduce the amounts asked for by the secretary of war, and fix upon a nearly equal percentage for all improvements. If this should be done at the next session you will readily understand that the amount which the St. Mary's Falls canal and the Hay Lake channel would receive would be entirely inadequate and that such reduced appropriations would take many years to complete the work. During such time the commerce of Lake Superior must remain subject to the risk of injury to the lock, and the stoppage of navigation. This is a chance which we cannot afford to take. There is too much danger to these great and growing commercial interests, with a tonnage increasing at the rate of over one million per year. A single day, a single hour, of delay, is fraught with immense loss to the people of this country. In the month of July 510 hours and 22 minutes were consumed in the passage of vessels through this lock. The total time in July is 744 hours, but it must be remembered that vessels do not always go singly, but are ofttime driven into the canal in fleets through storms, therefore must remain some time before they can pass the locks. The time lost, it is computed by vessels navigating the longer distance in the river, or the eleven miles, is one hour per trip to each vessel. The loss

of time from not having the Hay Lake channel open, on account of vessels being delayed at night because they are unable to pass through the river by reason of darkness, is also the loss of another hour per trip for each vessel. So that it will be seen that these delays amount in the aggregate to a great loss to the commerce of this country. It seems to me to be a great question which we cannot afford to overlook. We should make this the most important point in our resolutions, because this improvement is the most important to the commerce of the lakes. The deepening of the St. Clair flats and the shoals in the chain of lakes so necessary to cheap transportation you might await, but the loss, the risk to the commerce of Lake Superior by a serious leakage of the coffer-dam or a material injury to the lock, is a chance which you cannot afford to take when the surplus money of the people lies in the treasury unexpended. [Applause.] In regard to Canadian commerce, I would say it is known that the Canadians on their own side of the St. Mary's river are constructing a canal for political reasons, which, it is stated, will take four or five years to complete. The draught of water will be less than in our new lock, and even when completed the amount of relief to our lock will be very small and not equal to one-half of the annual increase of our freight tonnage. The increase of our tonnage runs from 15 to 37 and 40 per cent per annum, while the Canadian traffic is stated as only about 7 per cent of ours.

Mr. Chairman and gentlemen; The Committee on Resolutions will make important suggestions, and a leading recommendation for the speedy improvement and completion of the works in St. Mary's river, and I think they will act wisely and well. They have advised the construction of a deep water channel through this chain of lakes, and have adhered to that idea throughout their resolutions.

When this policy has been fully carried out the cost of transportation will be materially cheapened. Let us not hesitate in our indorsement. I thank you, gentlemen of the Convention, for your attention. [Applause.]

The Chairman; The Secretary is in possession of some communications relating to the business of the convention, which he will now read if there is no objection.

The Secretary here read two letters, one from F. W. Wheeler, West Bay City, Mich., and one from James Henry Harris, Department Secretary American Shipping and Industrial League, Chicago, Ill., stating their regrets at being unable to be present.

The Chairman: The Committee on Resolutions seems not yet to have completed their labors. In the meantime what is the pleasure of the convention?

Mr. Street: Mr. Keith, of Chicago, has some statistics concerning the difference in the rates between railroad transportation and lake transportation, which I think will be interesting matter for the convention to hear.

The Chairman: Mr. Keith, will you take the platform, please?

Mr. Keith: Gentlemen—

The area of the country bordering on and tributary to the great lakes seeking the advantages of cheap transportation exceeds 1,000,000 square miles, equal to that part of the United States between the St. Lawrence and the Mississippi and south of the lakes excepting the States of Illinois, Indiana and Ohio, which are properly speaking, lake states. The German empire may be added, also Great Britain and Ireland, and enough more to form two or three European Kingdoms. And if that part of Canada is embodied, which, like ourselves, is located in the interior of a great continent, all Europe (excepting Russia) may be included, while the population is about as one is to twenty, altogether disproportioned to the extent of the country.

The area of our lakes exceeds 90,000 square miles, with more than 2,000 miles of coast line and as much more on the Canadian side. The floating property employed on the lakes is valued at about \$65,000,000, and second in registered tonnage of the four grand tonnage divisions of the United States, and nearly equal to all the American tonnage engaged in the foreign trade. And when we consider that the United States merchant marine is second only to that of Great Britain, and greater

than that of France, Italy and Russia combined, I claim that our lakes are entitled to greater recognition from our government than they have yet received and are deservant of.

To realize what our government has done for railroads and how little for water-roads, let us compare amounts expended, tonnage carried, and freights on same, actual and prospective, on either side of where we now stand, taking one line of railroad and one line of water route, both terminating here.

Taking the Northern Pacific railroad, I find it received a grant or donation of 40,700,000 acres of land from the general government, valued at \$95,000,000, and the land sold warrants this assumption. The tonnage moved on this road and all its branches owned and leased during the fiscal year ending June 30, 1887, which is the latest data that I have been able to obtain, was 2,128,166 tons. The freight I will touch on later.

I will now take the main thoroughfare by lake from here to Buffalo and we meet our first obstruction at Sault Ste Marie, where all the overflow of Lake Superior pours over a rapids of about one mile in length and eighteen feet of a fall. For building locks and cutting a canal through solid rock our government donated 750,000 acres of land to the state of Michigan, from the proceeds of which the canal was originally built. Since that time, to obtain a sixteen foot draft between Lake Superior and Huron, \$2,404,126 has been expended.

For improving Detroit river and building and improving St. Clair flats, \$1,619,500 has been spent. A total of 750,000 acres of land, \$4,023,629, on a throughfare 1,000 miles long, on which there passed last year a registered tonnage of 20,000,000 tons, nearly equal to one-half the registered tonnage of the world. Of this, however, I will add that the former was made of perhaps a number of passages of the same craft, while the latter is seldom more than one or two passages of the same craft.

I will now compare the freight of the two competing carriers. By lake, freight on wheat from here to Buffalo, a distance of 1,000 miles, is two and one-half cents per bushel. On coal from Buffalo here it is forty cents per ton. By rail, freight on wheat from Bismarck here, a distance of 450 miles, is sixteen and one-fifth cents. On coal from here to Bismarck, \$4.50 per ton, nearly six and one-half times greater on wheat, and more than eleven times greater on coal for less than one-half the distance. If the same ratio is applied to Chicago there would be a saving of about \$200,000,000 a year in freight alone. From the Chicago board of trade report of last year during season of navigation I find that the highest freight on corn from Chicago to Buffalo was three and one-half cents, and the lowest one and one-half cents, an average of about two and one-half cents.

During the season that navigation was closed, or from January 1 to March 5, between the same points, the rail freights were nine cents per bushel. A perceptible difference. As a result we find that 47,759,808 bushels was shipped by lake of the 69,322,565 bushels received, leaving 21,763,000 for the twenty-seven railroads out of Chicago to carry.

I cannot do better than read Col. Poe's report :

The bureau of statistics gives the average freight charges per ton per mile on the trunk railroads of the United States for the year 1886, as .999 of a cent, or in round numbers, one cent.

Thus the average freight charges by rail compared with those by water, appear to be as 811 is to 183. That is to say, rail transportation for freight costs 4.43 times as much as by this water route.

Upon this basis the \$10,095,153 representing the cost of freight transportation by this water route during the season of 1887, would have been, if the freight had been carried by rail, \$44,632,293, and the saving, because of the availability of the water route, amounts to no less a sum than \$34,557,140 for the single season.

But it is well known that the freight rates by such railroads as compete with water routes are always reduced during the season of navigation. If the water route was not available, it is to be presumed that the rates would be maintained at a considerably higher average for the year than that mentioned above, and the sum

actually saved in transportation, due to the existence of the water route under consideration, ought therefore to be correspondingly increased.

It is not at all improbable that but for the water route open for about seven months in 1887, the charges levied upon the freight carried would have amounted to \$50,000,000. If this estimate is not exaggerated, and I think it is not, then the actual benefit to producer and consumer was fully \$40,000,000 in that single year, divided between them in unknown proportions.

To realize what this benefit means, it is only necessary to state that it represents more than ten times the cost of improving the canal and St. Mary's river to the present time, or about six times the estimated cost of the proposed further improvement, or about four times the cost of all the improvements already made and those yet to be made between Lake Superior and Lake Huron.

Moreover, it is fully seven times the amount expended upon improvements between Lake Superior and Lake Erie."

If the Great Architect of the universe had favored the northwestern country with another link to the chain of lakes extending to the Missouri river, whereby lake craft could continue their voyage to Bismarck, at most the freight would not increase beyond the ratio of the geographical distance, or twenty cents per ton from here to Bismarck, a saving of \$4.30 per ton on coal.

On wheat from Bismarck here there would be a gain of nearly fifteen cents per bushel to the producer and consumer, and more profitable to the carrier on the long than on the short trip, as he would earn as much freight money in two of the former as in three of the latter trips, a gain of thirty-three and one-third per cent of port charges and time in port, which is material in the course of a season.

But as we have not been favored with this imaginary lake, let us make the best use of those we do have, and it is my opinion that the cheapest, surest and most expeditious method is to increase the water in our harbors and rivers to a depth of twenty feet by simply removing and overcoming some of the obstructions that nature has omitted.

To obtain this draft Gen. Poe has estimated the cost of the "Soo" canal and river which will include a new lock, at \$7,307,890; improving the Detroit river and St. Clair flats at \$1,033,800; a total of \$8,341,000. And in addition to this there would still remain the necessity of deepening the passages at Bar Point, which is wholly in Canadian territory. And while I have no official estimate of the cost of this work it is safe to assume that double the cost of deepening Gross Point would assure the same draft of water and still be within the limit of \$10,000,000.

For a moment let us view the advantages gained and cost of some of the principal waterway improvements of the world.

The Suez and Soo canals—the former as well known to the world as the water it connects, while the latter is not known outside the lake boundaries. If the Suez canal's capital is any guide to its cost, which I have been unable to obtain, the amount is \$82,000,000.

The freight tonnage moved that passed through in the fiscal year ending June 30, 1886, which is my latest data, was 7,086,230 tons, a decrease of 589,000 tons from the preceding year.

There passed through the Soo canal in seven months of the fiscal year ending June 30, 1888, 5,581,169 tons and reckoning the increase of the one and the decrease of the other, I quite expect that this year the tonnage of the Soo will cross the line of the Suez. The registered tonnage that passed through the Soo canal last month was 1,237,000 tons, while the registered that passed through the Suez canal in the twelve months of 1886 was but 5,767,656 tons.

Yet the one was a commercial country 2,000 years before the other was discovered.

It is now estimated that the Panama canal when completed will cost upwards of \$500,000,000, and that from eight to nine million tons of freight will pass through it yearly, while there passes through the Detroit river 20,000,000 tons, twenty-five per cent greater than that of the Suez and Panama canals combined.

The cost of the Soo and Detroit river in land and money was about \$5,000,000,

against \$600,000,000 of the other, with better results, as it is claimed that the Suez canal cheapens the transportation of wheat from India to Europe ten cents per bushel, and it is safe to say that the lake route renders as good service over rail form here to Buffalo. And the former waterways was built and is building in countries foreign to their projectors, whilst the latter is through our own territory and for our own people.

With deeper waters let us see what the results would be. The majority of our lake tonnage that has been built within the last three or four years can be loaded to eighteen feet draft as well as now fifteen and one-half, thereby increasing our tonnage about twenty-five per cent in carrying capacity without any extra cost, and our largest ship building company on the lakes assures us that with a twenty-foot draft of water, ten per cent added to the cost of construction, we will gain from forty to fifty per cent in capacity, a profit of thirty-five per cent on our tonnage—an excellent investment.

There are people who believe that the carrier will be the sole beneficiary of the waterways improvement, but the contrary is the case, for with increased tonnage it will cause stronger competition, and with more supply than demand the freight is measured by the expense of the venture. Therefore with less expense there will be lower freights, for if there were no expense the item of freight would scarcely be considered in a shipper's account.

Cheap transportation was the chief cause of this meeting. A more worthy subject could not be advanced for a locality 1,500 to 2,000 miles from the markets of the world, with whom we have to compete, high freights would render the best part of the great nation without a value. Indians would be sovereigns and buffaloes the herds instead of the great ranches and wheat fields of the west that our whole country is justly so proud of.

I do not however wish to be understood that the west is the sole beneficiary of cheap transportation, but the producer and consumer of all the commodities transported, and the country in general.

The West, its produce and mine products; the East, its coal, salt and manufactures, all are seeking for cheap freights, and the carrier does not object while the expense or increased capacity at same expense, which is equivalent, keeps pace with the decrease of freight.

To do this let the combined efforts of all be directed in one direction for a sufficient and immediate appropriation, say of \$10,000,000, or that part of it that the engineers may deem necessary to complete a twenty-foot channel from the head of Lake Superior to Buffalo.

And I would suggest, if it cannot be reached otherwise, let the different harbors and obscure rivers waive their appropriations for a year or two and direct all to the improvement of the great highway that is common to all.

If that is once achieved, the spirit of competition will impel our harbors to reach the same depth or be left in the race.

If through the instrumentality of this assembly the desired result can be obtained, he that conceived this meeting will prove a benefactor, not only to the West or the East, but to the United States in general.

For without a prosperous people you cannot have a prosperous country.

Mr. Ellis: The Committee on Resolutions are prepared to report.

The Chairman: Unless objection is made the Chairman of the Committee will read the report.

Mr. Ellis, chairman of the committee then read the following resolutions:

Resolved, That we explicitly declare, as the sense of this convention, that ship canals, twenty feet in depth, should be undertaken and completed by the general government as early as practicable, through the shallows and rivers connecting the Great Lakes.

Resolved, That upon a speedy completion of the new lock and improvement of the Hay Lake channel in St. Mary's River, depends a cheaper rate of transportation

of the products of the East and Northwest, through the aid of larger lake carriers and the insurance of a continuous and safe passage of such carriers against the accident which a single lock assures.

Resolved, That the interests of commerce demand the appropriation of the sum named by the engineer in charge as stated by the Secretary of War in his annual report to congress, as the amount that can be profitably expended for the construction of the new lock and improvement of Hay Lake channel in St. Mary's River should not be reduced, but made in full by congress as recommended in said report.

Resolved, That this convention recommend that the lake harbors be deepened as rapidly as practicable, so as to accommodate vessels drawing twenty feet of water.

Resolved, That in this, as in every other convention in the interests of cheap water transportation and consequent improvement of rivers, locks and harbors, by liberal appropriations, that great system of inland water navigation, the Mississippi river and its principal tributaries, cannot be overlooked, and this convention strongly endorses their continued improvement by appropriation from congress.

Whereas, The great lakes and navigable waters connecting and emptying into the same have not been officially surveyed between 1849 and 1874; whereas, since that time numerous rocks, reefs, bars and other obstructions have been discovered; and whereas, different improvements and changes as to the channels and navigable waters have been made, particularly in the rivers and connecting waters, which do not appear upon maps and charts; and whereas, various additional lights, lighthouses, beacons, fog whistles, and sirens have been established or changed; and whereas, tonnage and commerce by these waters has since said surveys were made greatly increased and is still increasing; and whereas, certain portions of these waterways are still without sufficient lights and buoys; and whereas, private parties are now maintaining light-ships and other guides to navigation upon these waters; be it

Resolved, that it is the sense of this meeting that the great and governing commerce on these waters demand such steps on the part of the government as may be necessary to make a careful survey of all these lakes and connecting waters; and,

Resolved, that it is the duty of the United States government to bear the expense of providing additional safeguards against accidents, by the maintenance of light-ships, buoys and other guides to navigation now maintained at private expense.

Resolved, That the chairman of this convention appoint a committee of five to prepare a memorial embodying the subject matter covered by these resolutions for presentation to congress.

Resolved, That the committee designated by the resolutions of this convention to prepare a memorial to congress expressive of the sentiments of this convention, be authorized also to present said memorial to that body.

The resolutions were greeted throughout with applause.

The Chairman: The question is upon the adoption of the resolutions presented by the Committee.

Mr. Ellis: Gentlemen of the Convention, I will add a few words in support of these resolutions, for it seems to me our duty to pass them, and the way is so plain that it does not require any argument on the part of any one.

The trouble with us and the people generally is, that we do not realize the magnitude of the enterprise in which we are concerned today. You will allow me for a few moments to say a few words about the vast and rapid strides which the commerce of this lake has made in my own experience as a citizen of the lake. In the winter of 1855 I came through these woods from St. Paul, and came upon this site of Superior. At that time the "Soo" canal had not been completed. Navigation was carried on by one little steamboat of 100 tons and two small schooners of less than 100 tons registry. The whole commerce did not exceed 300 tons. In 1855 the "Soo" canal was completed, and it was my good fortune to come up here on the first boat passing through

that canal. I speak of this only to contrast that feeble beginning of the Lake Superior commerce with what you have heard it announced to be today, \$80,000,000 in 1888; an increase so utterly vast that it staggers our minds to comprehend it, but we have endeavored to grasp the situation and to look for a moment at the necessities of this commerce. I have been frightened and startled at hearing of the condition of the St. Mary's canal, at hearing that we are liable to have a breakage of that miter-sill and thus arrest all the wheels of this mighty commerce. This would affect not only Lake Superior men, but all the people, men, women and children, from the Atlantic to the Pacific, from the North to the South.

When the committee looked at these things, they knew they were charged with a very great responsibility, and knew that you and the great mass of the people would sympathize with us when we recommend a very liberal appropriation and policy. It has been said we have millions in the treasury. We have many millions, and they are a source of worry to the government; and here is this great highway the breakage of which, followed by an arrest of this commerce, would cause a convulsion. With this possible result in view, we urge upon you the adoption of these resolutions, and we wish to state in the most emphatic manner to the people of the country by these resolutions, the exact status of affairs. I hope it will meet with your hearty endorsement and approbation in all particulars. [Prolonged applause.]

The Chairman: Is the Convention ready for the question? As many as are in favor of the adoption of the resolutions will signify it by saying "aye." Gentlemen, the resolutions are unanimously adopted. What is the further pleasure of the convention?

Mr. Flynn: I have to offer a resolution at this time, but—

The Chairman: Is it a resolution which, under the rules, would be referred to the committee on resolutions?

Mr. Flynn: I think not. I will read it and then the convention can decide.

Resolved, That an executive committee of fifteen (15) members, consisting of one representative from each of the principal commercial bodies, Vessel Owners' and Lake Carriers' Associations, on the chain of lakes, be designated by the President of this Convention, upon which committee shall devolve the responsibility and duty of calling the next Convention in the interests of navigation on the Great Lakes and their connecting waterways, whenever in the judgment of the committee the necessities of our commerce shall justify such call

Resolved, That it is the sense of this convention that the committee should secure the concurrence and co-operation of at least a majority of the organizations they represent, prior to issuing the call.

I understand one of the objects in calling this convention together was to get an organization of this kind, that is, to get a head to it, and I understand this resolution which I have read meets with the hearty concurrence of the West Superior delegation and also of the Duluth delegation and the other bodies around the lakes.

For that reason I offer the resolution, thinking it best we should have some organization, so in the future when a call is issued the commercial bodies will know it carries weight with it. I move the adoption of the resolution.

Mr. Street: I rise, Mr. Chairman, to second the motion.

Motion was here put and carried.

Mr. Searle: Mr. Chairman, I desire to offer a resolution:

Resolved, That the secretary is hereby directed to have printed in pamphlet form such part of the proceedings of this convention as shall be deemed proper in connection with the memorial of the convention to congress, and that a proportionate amount of the expense thereof be paid by each commercial body sending delegates to the convention.

The Chairman: Are you ready for the question? As many as are in favor will signify it by saying "aye." Gentlemen, the resolution is adopted.

Mr. Phelps: Mr. Chairman, I desire to offer a motion and regret not thinking of it earlier so as to embody it in a resolution.

Resolved, That the most hearty thanks of this convention be and are hereby tendered to the commercial bodies and to the city authorities of Superior and West Superior, and also to the citizens of these cities for the liberal and cordial manner in which they have received the delegates to this convention, and for the generous provision they have made for their entertainment during the sessions.

The question was put and unanimously adopted.

The Chairman: The chair will ask the indulgence of the convention as to the appointment of the executive committee to be composed of fifteen members. For the purpose of enabling the committee on memorial to have a consultation, the chair will make the announcement of that committee now.

The chair will appoint as a committee on the formulation of a memorial the Hon. H. W. Seymour, Dr. Edwin Ellis, William Thurstone, C. H. Graves and W. F. Street.

Mr. Bierly was called for by the convention to address them.

Mr. Bierly: Gentlemen of the convention, by your leave and courtesy I desire to thank you for the privilege of speaking to you upon a subject which lies very near and dear to the interests of the great wheat fields of the Northwest, the grainary upon which these magnificent cities spread out before us here must depend for their future prosperity. With no desire to thrust this matter before you for any action, or even for the expression of an opinion upon it, I simply desire to ask attention to what I shall say and let each and every one make up his individual judgment upon the facts.

Mr. Bierly thereupon addressed the convention upon the subject of governmental irrigation of the lands of the Northwest.

Mr. Stow here addressed the convention stating particulars in reference to the entertainment of the delegates which would take place upon the adjournment of the convention. His remarks were greeted with considerable applause.

Mr. Graves: The committee of fifteen to be selected from the commercial bodies is a matter of considerable importance and a troublesome thing for our chairman to attend to. I therefore move that the president be allowed such time as he may think necessary to form this committee, and announce it afterward through the press of the country.

Mr. Mitchell: I second that motion, Mr. Chairman.

The question was here put and carried.

Mr. Mitchell: After consultation with some gentlemen I have a brief resolution to offer which is necessary to supplement the very admirable resolution which has been introduced.

Resolved, That the committee designated by the resolutions of this convention to propose a memorial to congress expressive of the sentiments of this convention be authorized also to present said memorial to that body.

We find at Duluth that we have got to send a good strong committee down to congress to hammer the memorial into them as well as to memorialize them.

The question was here put and carried.

Judge Clough: Mr. Chairman, I wish to offer a sort of resolution which will be in place upon the eve of adjournment.

The Chairman: What is the further pleasure of the convention? Hearing nothing, I think your resolution, Judge Clough, is now in order.

Judge Clough: I move the adoption of the following resolution:

Resolved, That this convention has found in the Hon. Leroy Andrus of Buffalo a singularly able, prompt, efficient and urbane presiding officer, and that in taking leave of him they extend to him their cordial thanks for his valuable services in that capacity, and their sincere wishes for his happiness in all relations of life.

Mr. Chairman, if you will allow me.—Gentlemen, I will put that resolution. All in favor say, "aye." The "ayes" have it.

The Chairman: Gentlemen, on this eve of the convention's dissolution I have to thank you; I have to express my deepest and sincerest thanks again for the honor which you did me, for the very courteous manner in which you have seconded the Chair's conducting of the proceedings of the convention, and also to congratulate you upon what I think is the successful issue of the meeting. It requires no prophet's eye to look forward to the time when the action of this convention will have made itself felt upon congress, and when this vast work which this convention assumes to ask for will have been finished. Gentlemen, I thank you. [Applause.]

Mr. Ellis: I move that the thanks of the convention be presented to Mr. W. F. Street for his efficient labors in planning and calling this convention and in serving as its Secretary.

The motion was here put and carried.

Mr. Street: I thank you heartily, gentlemen. When we began the work in the interests of this convention I hardly anticipated so able a gathering and one so well representing such widely scattered communities. The ultimate results of the convention's work will, I am sure, justify your assembling here. I thank you heartily.

Mr. Mills: I wish to move a vote of thanks to the gentlemen of the press who have so faithfully represented the proceedings of this convention, and to whom we must look for a proper dissemination of its opinions.

The motion was put and carried.

The convention hereupon adjourned.

LEROY ANDRUS, Chairman.

W. F. STREET, Secretary.

The Committee on Memorial at once met and organized by electing Dr. Edwin Ellis chairman and W. F. Street secretary. On motion, Hon. H. W. Seymour was appointed a sub-committee to draft and present to congress the memorial of the convention.

W. F. STREET, Secretary.

THE MEMORIAL.

To the Honorable, the Senators and Representatives in Congress Assembled:

Deep water navigation, wherever possible, is the regulation and basis of cheap transportation. It fixes the standard and price of freights. Low freight rates permit and expedite the exchange of commodities between remote states and communities. The value and price of land is equalized by this system. Sections become special in their productions or diversified in their industries as their capabilities warrant. New England becomes manufacturing while its toilers are largely fed with the products of western farms. Wheat and meat produced west of the Great Lakes are consumed by the artisans of England and the mechanics of the Clyde. The hard wheat of Dakota and patent flour of Minneapolis are staples in the markets of the world. The coal of Pennsylvania runs roller mills at Duluth and engines of Northwestern railways. The ore of Michigan and Minnesota feeds the furnaces of New York, Ohio and Pennsylvania. Great industries are established and possible on the shores of Lake Superior and the interior beyond, supported by the exchanges of New and Old England. The American producer and manufacturer becomes cosmopolitan. Wheat raised in the Red River region of the North competes successfully with that of Russia, or that produced by the cheap labor of India. The American product is not excluded by higher priced labor or distance. These conditions of production and sale are possible through cheap water transportation, without which they would be insufficient and ineffective.

The growth of the Northwest is phenomenal. Rapidly increasing in population and gridironed by railroads, four states have been recently carved from its territory, eight states and one territory border on or lie directly west of Lake Superior comprising nearly six hundred thousand square miles, while to the north stretches British territory nearly a thousand miles square. Duluth, with a population in 1880 of three thousand four hundred and seventy, now claims fifty thousand, while its own and Superior's grain receipts for the year 1889 were 17,127,576 bushels. Their flour receipts for the season were 1,955,042 barrels, and coal receipts, 1,345,000 tons. The Zenith City of the unsalted seas is rising to the gravity of the occasion and in her enterprise, development and growth is filling the fulsome utterances of Hon. Proctor Knott, which her citizens publish and re-publish with the ardent enthusiasm of believers; while along the bay shore and near by is the growing city of Superior, whose lake commerce for 1889 exceeded \$28,000,000 in value, pre-figuring in its rapidity of growth with that of Duluth the ultimate junction of the two as the entrepot of commerce of the Northwest; while Ashland, the great iron port of Lake Superior, the centre of the trade and commerce of the famous Gogebic and Penoque iron ranges and of

Northern Wisconsin, which during the year 1889 exported over 1,500,000 tons of iron ore, 200,000,000 feet of lumber, and imported over 250,000 tons of coal, doing an immense manufacturing business reaching to more than 25,000,000 of dollars, is rapidly growing in wealth and population. St. Paul and Minneapolis, the twin cities of Minnesota, are touching each other in their rivalry of growth, while throughout the vast extent of the Northwest, cities and villages are springing up with unusual celerity. The head of Lake Superior is 1,491 miles by water from New York, of which 997 are water navigation by the lakes. The St. Mary's river forms a connection with the lower lake system. At Sault Ste Marie, rapids three-quarters of a mile in length obstruct navigation. A single lock with an approach to the deep water of the river above, the whole extending about one mile, comprise all that is known as St. Mary's Falls Ship Canal. This work, though classed with the canal system, through its necessity to the use of a great natural waterway, would be more justly designated as an improvement of the waterway. No odium or objection can belittle this improvement, which in this railroad age attaches to the canal system. No argument which can be fairly used against such a system is applicable to this. It simply avoids the obstruction to navigation of the great dam which nature has thrown across the St. Mary's river.

This improvement is strictly national in its character as shown by the diversity and port shipments of its freight. Upon this subject Gen. Poe in 1888 said, "the fact is that Michigan's interest is only about 17 per cent, the remainder pertaining to New York, Pennsylvania, Ohio, Illinois, Wisconsin, Minnesota, Dakota and Montana Territories and the Dominion of Canada."

THE COST OF THIS COMMERCIAL GATEWAY AND ITS ENLARGEMENT IS INSIGNIFICANT IN COMPARISON WITH ITS VALUE TO COMMERCE AND THE ENORMOUS PROPORTIONS OF ITS TRAFFIC. The report for the calendar year of 1889 gives the freight tonnage as 7,516,022, an increase over the previous year of 1,104,599 tons, or more than 17 per cent, and over the year 1881, when the present lock was completed, nearly 400 per cent, which year the net freight tonnage was 1,567,741. The estimated value of the freight for 1889 is \$83,732,527.15. The details of the report for this calendar year show a decrease of 13 per cent in wheat, but an increase of 5 per cent in grain other than wheat and 2 per cent in flour. It is probable a larger percentage of wheat has been floured and that the new railroads eastward from Duluth and Minneapolis have sought and carried this freight. This will undoubtedly continue, as barrel freight is easily handled and the demand for patent flour increasing. Railroads will compete for and carry this freight as well as the light and valuable, but the fact remains that the tonnage of the canal is steadily increasing, whatever changes, depressions or fluctuations happen.

The tonnage of raw material and heavy freight is increased by cheap rates. The higher grade ores of Lake Superior will be more largely sought for and mixed with the ores of other localities, and while heavy material will more and more form the bulk of freight in water transportation through cheapening rates, the tonnage will steadily increase. The benefit insures to the people, although changes happen in the relative character of the carrying trade affecting rail and water transportation in which greater speed and cheaper rates are obtained from one or both methods, more extensive development of industries had and the tonnage of both constantly increased.

The idea of a canal around the rapids was an early one, coeval with the commercial use of Lake Superior. Recent explorations have uncovered the floor and remains of a lock forty feet long and eight feet, nine inches wide, on the Canadian side of the river constructed in 1797 and 1798 by the Northwest Fur Trading Company for its canoes and boats. This was the germ of later efforts and forecast through the necessities of that early time the exigencies of later and more extended commerce.

The original canal was completed by a private company in 1855 through a grant of 750,000 acres of land to the State of Michigan by congress in trust for its construction, while the cost to the contractors was \$999,802. It had two locks 350 feet each in length, with a width of 70 feet, a lift in each lock of nine feet and a depth of 11½ feet of water over the mitre-sills. The amount of registered tonnage passing through in 1855 was 106,296 or about 1-68 of that for the present calendar year. The

depth of the canal was subsequently increased to sixteen feet, and in 1881 the present single lock completed being 515 feet in length, 80 feet in width, narrowed to sixty feet at the gates, the lift is eighteen feet and the depth of water on the mitre-sills seventeen feet.

In his official report of the commerce for 1883, Gen. Poe, referring to the annual increase in tonnage of 107,313 tons per year for the fifteen years previous, said: "If this rate of increase continues for eight years or more the present lockage system will be entirely inadequate. The old locks, which were depended on for the passage of a considerable portion of the shipping, have become practically useless, because the increased draft of vessels renders it impossible for them to go through the old locks. Of all the commerce of last season only 11 per cent was of sufficiently light draft to pass the old locks." Also in his report of January 8th, 1885: "Should the rate of increase (955,978 reg'd tonnage) be maintained, the full capacity of the lockage system will be reached within four years instead of eight." Also in his report August 2d, 1886: "The fact emphasises the remark made in my last annual report that, 'Should this rate of increase continue the present lockage system will be insufficient to pass the commerce long before it can be, in the usual course of appropriations for river and harbor improvements, enlarged to meet the greater demands upon it.'" In the report of Dec. 17th, 1887, the following language was used: "Should the same rate of increase be continued for two more years we will have reached our estimated ultimate capacity of the present lock, which is ninety-six vessels per day."

No stronger language could be used or more frequently to emphasize the necessity for larger appropriations for the construction of the new lock.

The original locks have been destroyed to give place to the proposed new one, leaving only the present single one for the convenience and safety of commerce. When the present lock was completed the character of the barges was changed. Steam barges towing consorts superceded tugs and the smaller sailing vessels until the latter class have almost entirely disappeared. The rates of freights decreased as the size of barges increased, proving here as elsewhere the correctness of the rule that larger barges with consorts are cheaper carriers than small crafts.

The early completion of the new lock is an absolute necessity to allow the passage of vessels without delay. They frequently arrive in fleets and then are obliged to wait for hours their turn for lockage, which often means, when passing down the river, a detention for the night, as, unless they can pass the lock before four o'clock in the afternoon, the tortuous character of the river preventing navigation in the night. The largest number of passages in one day during the season was 84, and the longest time of the operation of the lock, 22 hours and 22 minutes. The ultimate capacity is 96 vessels for every 24 hours, or one every fifteen minutes.

The risk to commerce of stoppage with only a single lock is always imminent. Should a barge under headway strike the gates, or should the emptying valves by any cause become broken, these accidents, depending on the nature or extent of the same, would cause delay. As a measure of safety against delay in the new locks by injury to the gates, it is proposed to put in a set of intermediate gates, which can be opened and closed when needed, which shows that experience indicates and proposes in the future to avert the ever present danger.

In the construction of the new lock a coffer-dam has been completed, rendered necessary by the excavation of the two original locks upon the site of which the new one will be constructed. The coffer-dam is of clay, eight feet in width between two cribs, each twenty feet wide, resting on rock on the bottom of the canal, forming the bank on the inner side, while just outside and lower than the outer crib is made the excavation for the new lock. The rock is seamy, and to what extent the water of the canal will work through is yet a problem. The cribs are filled with earth and stone through which water trickles against the coffer-dam of clay. It happened on November 4th, a portion of the clay of the coffer-dam settled down or was carried away, caused by the water forcing the earth out from the uneven places below the crib-work and clay which the dredges when preparing the bottom had failed to remove. The movable dam above was closed eighteen hours to lower the water while repairs were made, which means a closing of the canal for that time. This action is now consid-

ered by the officials unnecessary but properly taken in view of the interests involved as a precautionary measure. To an onlooker who saw the ghastly wound caused by the force of water, the realization seemed to come as in no other way how slight is the barrier which now protects water navigation for the commerce of the Northwest. For a time it seemed that water would have its way, as the sinking clay showed a larger passage, but persistent efforts filled the cavities with additional clay and the break was stopped.

The officials consider navigation secure against detention from any leakage which may occur in the coffer-dam, but regard such leakage as a menace to detention in the continued progress of the work of construction of the new lock. They have confidence pumps will keep the leakage from obstructing the work but do not assert but that it may occasionally be otherwise.

The proper remedy is a large appropriation for the speedy construction of the lock, thereby reducing the time of the menace to a minimum. Economy is also secured by such appropriation in the more rapid prosecution of the work, or to quote from the language of an official report, with large appropriations better contracts can be made and at the same time the ratio of contingent expenses reduced."

Freight rates were materially reduced by the construction of the present lock and are annually decreasing as the larger carriers are superceding smaller ones. In 1887 the cost of freight carriage was 23-100 of a cent per ton per mile, while in 1888 it was reduced to 15-100. It is expected that 13-100 of a cent will cover the cost in 1889. The lowest freight rate for the year 1887 on any of the trunk railway lines tabulated by the Bureau of Statistics was 54-100 of a cent per ton per mile, while the average rate was 974-1,000. The average cost per ton of coal from Buffalo to Duluth and Superior the past season is stated at 40 cents while charters have been had at 25 cents. This is a lower rate than to any Lake Michigan port whatever. When the new lock and Hay Lake channel are completed the rate of 12-100 of a cent per ton per mile given for fourteen or sixteen feet of water should prevail on this route. Were a 20-foot channel constructed between Duluth and Buffalo it would be no exaggeration to say that the freight rate might be reduced to one mill per ton per mile, since the lowest feasible ocean rates for about twenty-five feet draft vessels are tabled at one-half mill per ton per mile.

The estimated cost for the completion of the canal over moneys already appropriated is \$3,738,865, and the amount that can be profitably put under contract for the year ending June 30, 1891, is stated at \$1,235,875 for the masonry of the lock walls and its proportion of contingencies. The amount estimated for the construction of the gates is \$250,000 and for the machinery of the lock \$100,000. If these latter sums were added to the amount asked for, and the whole appropriated, making a total of \$1,585,875, the sum necessary for the enclosure of the lock would be provided for. The gates and machinery for the new lock could be constructed and ready to be placed when the walls were complete. It would seem that prudence, economy and safety would dictate no smaller appropriation than this, if the entire sum necessary for completion is not made.

The Hay Lake improvement, when completed, will save a distance of eleven miles, providing a straight channel which, by the use of range lights, will allow the navigation of the river by night, which is now impossible.

The estimated saving per vessel trip on the completion of this improvement is one hour, which for the business of 1889, at the rate of 15.100 of a cent per ton per mile is \$120,750, or the interest of 3 per cent on more than four million dollars, nearly two and a half times the sum necessary to complete the work. The improvement consists in constructing a ship channel 300 feet wide and 20 feet deep through the rapids at the head and foot of Sugar Island on the opposite side of the island from the present channel. The sum necessary to complete the work is \$1,684,115 and the amount asked for by the Secretary of War is \$500,000 for the year 1890.

The comparison of tonnage passing through the St. Mary's Falls ship canal and cost of construction with others show its value. The net tonnage of the Suez canal for the year 1888 was 6,640,834, and the total increase for the two years of 1887 and 1888 over 1886 is 909,148 tons, while the increase of the St. Mary's for the year 1889

over 1888, 1,104,599 tons, or 22 per cent greater in the St. Mary's for one year than in the Suez for two years. The Suez is open for navigation the entire year while the St. Mary's in 1889 for only 234 days. The cost of the Suez to 1877 was about 92,000,000 dollars, while that of the St. Mary's with new lock completed as estimated, the sum of \$7,888,667.46. The average charge for tolls during 1888 in the Suez was \$1.89 per ton. About 26 per cent of this average charge, or 50 cents per ton on the business of the St. Mary's Falls canal for 1889, would be sufficient to complete the work.

The Nicaragua Canal is estimated to cost not less than sixty-five million dollars, and expected to be open for traffic in 1895 with a tonnage of from 6 to 7 millions. With the present increase St. Mary's canal will pass over fourteen million tons in 1895. The Manchester canal is estimated to cost thirty-five million dollars, but its tonnage will be small compared with the Suez, Nicaragua or St. Mary's. The Bureau of Statistics shows "tons entered and cleared" in the foreign trade at sea ports in the United States in 1888 as 23,510,586, while the tonnage of the St. Mary's for 1889, is nearly one-third of this amount.

The tonnage of the vessels built in the United States in 1889 was as follows:

On the entire Seaboard.....	111,852
On the Northern Lakes.....	107,080
On the Western Rivers.....	12,202

The proportion of those built on the Northern Lakes being over forty-nine per cent. of the whole.

Improvements in water-ways effect more than the reduction of rates on freight carried through them. They tend to lower railroad rates throughout the entire country, since all rates are in a measure competitive and all rail rates are based more or less on water rates.

The feeling in the west and northwest is strong and decided in favor of the early completion of the new lock, not only for the increased facilities needed, but as an insurance against detention to navigation and in the interest of economical expenditures. No other improvement commends itself so strongly to their interest and judgment. Frequent expressions voice their convictions that an appropriation of \$3,738,865, or the entire amount, should be made by this Congress sufficient to complete the work. Unless this is done it is feared by those interested in the navigation of the canal unnecessary years will elapse in the process of construction.

The appropriation of one million dollars in August, 1888, was too late for use during that season.

The first appropriation of two hundred and fifty thousand dollars, for the cofferdam, was made in 1886, and in December, 1889, not more than one-fifth of the excavation for the lock-pit had been made. Appropriations made at an interval of two years do not permit the work to proceed with adequate rapidity commensurate with its importance.

The territory tributary to the Great Lakes system, it is estimated, annually aggregates through the receipts and shipments of its different lake ports, a commercial traffic of over one billion dollars. The city of Chicago alone exchanging by this water route in 1888 products of the value of \$174,374,843. That this traffic is carried on between ports on the different lakes of the system, thereby increasing the total, does not lessen its commercial advantage in comparison with foreign commerce. Traffic of this magnitude is entitled to the best facilities of passage.

The waterway convention held at West Superior in August, 1889, urged by resolution the necessity of appropriations by Congress, for the speedy construction of a 20-foot channel through the shoals of the connecting waters of the lakes from Duluth and Chicago to Buffalo.

For the furtherance of this purpose and within the scope of said resolution in the construction of a deep water channel, we have procured through official kindness an unofficial estimate, made from an examination of the most accurate data at hand which is given without claim to complete accuracy, which latter could not be had without practical tests of the kind and extent of the material to be excavated, the total estimated cost of the channel, including works now under construction, or \$11,312,980

Deducting the amount required for St. Mary's canal and Hay Lake channel of \$5,422,980, leaves \$5,890,000 necessary for completion. The estimate is based on a channel width of 300 feet and a depth of 20 feet.

The amount seems insignificant in comparison with the benefits attainable. It would result in an increase of freight tonnage in carriers and a probable reduction of twenty-five per cent in freight. The larger carriers do not load within seventy-five or eighty per cent of their capacity and are short each trip from 400 to 600 tons of freight on account of the insufficient depth of water in the shallows of the connecting waters of the lakes. This loss is a charge on the freight carried and can be remedied only by greater depth of water.

With such an extent of inland seas so easily and with so little expense made navigable for larger carriers, the strongest inducements for immediately hastening this necessary and national work are presented. The Engineering News states the situation justly when it says: "It has been evident for some time to the careful observer that although the day of small canals is over the day of larger ship canals is just dawning."

There is no natural antagonism between the water and railway system. While the former may be a check upon the rates of the latter, it is a feeder and creator of increased business through its cheap rates, by allowing a greater interchange of heavy products and low priced raw material, and through such carriage, building up remote communities, increasing individual wants and diversifying human comforts. It cheapens the freight rate of ore and its product steel rails, and lessens the cost of railway repairs and construction.

We wage no warfare upon the railway system. Each are helpmates of the other and both are handmaids of civilization. The unprecedented growth of the republic is the result of the agency of both.

The Great Lakes, situated in the interior of the continent, stretch out their arms for the products of the prairie, the forest and the mine for carriage to centres of industry and cities of their own building. That this great national channel shall be improved and its facilities increased as rapidly as commerce demands, supplied with ample appropriations for its speedy completion, is the earnest desire and urgent request of the people dependent upon and benefited by its navigation.

The surplus lies idle in the treasury. The appropriation of the estimated amount for its completion would not remove money from the people's vaults until used for construction purposes. It would create no new project, but would unmistakably commend rapidity of work with the assurance that the funds were ready when needed.

H. W. SEYMOUR.	} Committee.
WM. THURSTONE.	
EDWIN ELLIS.	
C. H. GRAVES.	
W. F. STREET.	

ESTIMATED COST OF DEEP WATER CHANNEL.

1st. Vicinity of Round Island at head of St. Mary's River. The material to be removed is earth and boulders. The locality is somewhat exposed. The estimated cost is \$200,000.

2nd. St. Mary's Falls Canal. Estimated cost for completion, taken from report of Chief of Engineers for 1888, is \$3,735,865.

3d. Improvement of Hay Lake. Estimated cost for completion, taken from report of Chief of Engineers for 1888, is \$1,684,115.

4th. Vicinity of "the dark hole" in St. Mary's river, about two miles above Sailors' Encampment. The material to be removed is hard gravel and hard-pan but dredgible. Estimated cost \$200,000.

5th. Sailors' Encampment, St. Mary's River. The material to be removed is limestone rock. The estimated cost is \$280,000.

6th. Vicinity of Port Huron. The material to be removed is boulders and earth.

The locality is exposed. The estimated cost is \$60,000.

7th. Lake St. Clair. This improvement includes the whole width of $\frac{1}{4}$ Lake St. Clair, from deep water in the St. Clair to deep water in the Detroit. Also the rebuilding of the Ship Canal pier revetments. The material to be removed is soft. A large portion of the locality is somewhat exposed. The estimated cost is \$4,250,000.

8th. Vicinity of Bar Point, at entrance to Lake Erie. The material to be removed is soft. The locality is exposed. The estimated cost is \$900,000.

The total amount of the estimate is \$11,312,980.

[2.50]





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